



## The relationship of communication skills with leadership style and conflict management strategies of head nurses: A cross-sectional study in Northern Iran

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### Abstract

**Background:** Head nurses, as operational managers of hospitals, require robust communication skills, comprehensive leadership knowledge, and proficient conflict management strategies. By utilizing appropriate management techniques based on these skills, head nurses can actively contribute to enhancing efficiency, improving performance, and delivering high-quality services within the hospital setting. This study aimed to investigate the relationship between communication skills, conflict management, and leadership style among head nurses.

**Methods:** A cross-sectional study was conducted in 2021, involving 166 head nurses employed across 16 hospitals affiliated with Golestan University of Medical Sciences in Iran. The sampling method employed was a census approach, encompassing the entire population of interest. After obtaining ethical approval, data were collected using established instruments, including Robbins' Evaluation of the Conflict Resolution Questionnaire, Queendom's Interpersonal Communication Skills Test, and Bass and Avolio's leadership style Questionnaire. Descriptive statistics, Mann-Whitney U, Kruskal-Wallis, and Spearman correlation tests were utilized to analyze the collected data. The significance level was set at 0.05.

**Results:** The findings revealed that the total score of communication skills, particularly the dimensions of emotional control and listening skills, exhibited a significant positive association with the overall score of conflict management and its three distinct strategies. Moreover, a significant positive relationship was observed between the ability to receive and send messages and the contingent leadership style (P-value = 0.043). Conversely, the orientation strategy demonstrated a negative impact on leadership quality, as it was found to diminish leadership quality across all dimensions for head nurses. Furthermore, the control strategy exhibited a significant negative correlation with the charismatic leadership style (P-value = 0.037). Lastly, the overall score of conflict management displayed a significant negative association with the charismatic leadership style (P-value = 0.031).

**Conclusion:** The assessment of head nurses' communication skills indicated an average proficiency level. The prevailing leadership style adopted by supervisors was charismatic, while the predominant conflict management strategy employed was non-confrontation. It is recommended that effective plans aimed at improving communication skills, fostering effective leadership, and enhancing conflict management be implemented within hospital departments to enhance the current situation. This can be achieved through organizing impactful training workshops and utilizing supportive and motivational mechanisms.

### Highlights

#### What is current knowledge?

Head nurses, as operational managers of hospitals, must have strong communication skills, know the leadership methods and conflict management strategies well, and accordingly, apply a correct management method to play an active role in increasing the efficiency and effectiveness of performance in the hospital and providing quality services.

#### What is new here?

The study assessed the communication skills of head nurses and found them to be at a significantly high level of proficiency. In addition, the predominant conflict management strategy employed by head nurses was non-confrontational in nature. Furthermore, the dominant leadership style adopted by head nurses was identified as charismatic in nature.

### Introduction

Communication skills are essential for engaging in interpersonal interactions and the communication process (1). Many individual and organizational problems can be traced back to a lack of these skills. Communication skills play a crucial role in the socialization of individuals and in fulfilling human, spiritual, and cultural needs within different societies. Furthermore, nurses, as health advocates, pain relief agents, and healthcare service providers, have a significant impact on the treatment outcomes of patients (2).

The leadership style of healthcare professionals is vital for enhancing the quality and integration of care. Leadership involves the relationship between leaders and followers, encompassing the behavior of guiding and coordinating the activities of a team or group toward a common goal (3).

Conflict is a natural and inevitable outcome of human communication (4). Healthcare systems, particularly nursing staff, are susceptible to various types of conflicts (2). Appropriate managerial behavior, especially in the context of management and conflict resolution, can boost employee morale, motivation, and job satisfaction (5).

A head nurse in a healthcare facility is a professional nurse entrusted with the responsibility and authority to lead and manage nursing service activities within a specific ward. The head nurse is accountable for directing and organizing the activities of the nursing team and patient care (6). Consequently, their communication skills are pivotal to their success and can lead to more effective conflict resolution (1).

Communication skills can also be a determining factor in selecting conflict management styles. Communication is a fundamental and essential element influencing all human interactions. The correct and effective transmission of a message is one of the most crucial aspects of an individual's behavior within an organization (7). Understanding the levels of communication skills, leadership styles, and conflict management strategies employed by head nurses, as well as exploring their relationships, can provide insights into the factors contributing to conflicts in hospitals. Ultimately, this knowledge can lead to improvements in the quality-of-service delivery. Despite the abundance of studies (1,7,8), none have simultaneously examined the three factors of communication skills, conflict management, and leadership style among head nurses in hospitals. Therefore, this study was conducted to investigate the relationships between communication skills, conflict management strategies, and leadership styles among head nurses working in university hospitals affiliated with Golestan University of Medical Sciences (GOUMS).

### Methods

#### Study population

This cross-sectional study employed a descriptive-analytical approach. Out of 178 working head nurses in university hospitals affiliated with GOUMS, 166 (response rate: 93%) were included in the study through a census method. Inclusion criteria encompassed the willingness to participate in the project and a minimum of 1 year of supervisory experience. Additionally, questionnaires with numerous blank or incorrect answers were excluded from the study.

**Data collection method**

The data collection tool comprises 4 parts. The first part requests demographic information, including age, sex, marital status, level of education, and work experience as a head nurse. The second to fourth parts consist of Queendom's Interpersonal Communication Skills Test (9), Bass and Elio's leadership style questionnaire (10), and Robbins' Evaluation of the Conflict Resolution Questionnaire (11), respectively.

Queendom's Interpersonal Communication Skills Test consists of 34 items divided into 5 areas: listening skills (6 questions), the ability to receive and send messages (9 questions), insight into the communication process (5 questions), emotional control (9 questions), and assertive communication (5 questions). The questionnaire is scored using a 5-point Likert scale ranging from 1 (never) to 5 (always), with 3 questions scored inversely based on their content. Each person's score can range from 34 to 170. Scores between 34 and 68 indicate poor communication skills, scores between 68 and 102 represent average communication skills, and scores above 102 indicate high communication skills. The questionnaire's validity and reliability, with a Cronbach's alpha of 0.69, have been confirmed (12).

Bass and Avolio's leadership style Questionnaire comprise 16 questions and 4 dimensions: servant leadership, transformational leadership, contingent leadership, and charismatic leadership, with each dimension containing four questions. Responses to the questions are scored on a Likert scale, ranging from "very little" to "very much." Scores between 16 and 48 indicate a weak leadership style, scores between 48 and 64 indicate an average leadership style and scores above 64 indicate a very good leadership style. The questionnaire's validity and reliability, with a Cronbach's alpha of 0.79, have been confirmed (13).

Robbins' Evaluation of the Conflict Resolution Questionnaire consists of 30 questions, with a Likert-like scale (always, most of the time, often-sometimes, rarely, very rarely, never) scored from 1 to 7. This questionnaire assesses 5 conflict management methods within 3 control strategies (7 questions), non-confrontation (12 questions), and solution orientation (11 questions). The questionnaire's validity and reliability, with a Cronbach's alpha of 0.81, have been confirmed (14).

The questionnaires were distributed to the supervisors during visits to the hospital and completed through a self-administered process. Once completed, the questionnaires were submitted to the researcher. In cases of non-completion due to supervisor conflicts or other reasons, the researcher later re-issued the questionnaires to the supervisors.

**Statistical analysis**

Data were analyzed using descriptive and inferential statistics with SPSS v. 18 (SPSS Inc., Chicago, IL, USA). The normality of the data was assessed using the Kolmogorov-Smirnov test and was found to be non-normal (P-value<0.05). Descriptive statistics, Mann-Whitney U, Kruskal-Wallis, and Spearman correlation statistical tests were employed for data analysis, with the significance level set at 0.05.

**Results**

The average age of the head nurses was 42.57 ± 5.93 years, and their average work experience as head nurses was 8.22 ± 6.05 years. The sociodemographic characteristics of the head nurses in the study sample are presented in Table 1.

The mean score for communication skills was 96.40 ± 8.98, indicating that the level of communication skills was assessed as average. The highest score was related to the emotional control area (25.91 ± 3.49), while the lowest score was related to the insight into the communication process area (14.04 ± 1.88) (Table 2).

The findings revealed a significant relationship between the total score of communication skills (P-value = 0.022) and the emotional control area (P-value = 0.015) with the variable employment status. Specifically, head nurses with permanent employment status scored higher in communication skills and emotional control compared to those with contractual status (Table 3).

The overall score for leadership style was 66.62 ± 8.54, indicating that the level of leadership style among head nurses was assessed as average. The predominant leadership style used by head nurses was charismatic (16.95 ± 2.73), followed by transformative leadership style (16.81 ± 2.39), contingent leadership style (16.63 ± 2.43), and finally servant leadership style (16.23 ± 2.29) (Table 2).

The overall score for conflict management was 3.69 ± 0.51. The results demonstrated that the dominant conflict management strategy employed by head nurses was non-confrontation (3.86 ± 0.67), followed by the control strategy (3.61 ± 0.58), and then the solution orientation strategy (3.54 ± 0.58) (Table 2).

The total score of communication skills, particularly in the dimensions of emotional control and listening skills, exhibited a significant positive relationship with the total score of conflict management and all three of its strategies (P-value < 0.05). This means that as communication skills, emotional control, and listening skills increase, there is an associated increase in the use of conflict management strategies (Table 4).

**Table 1.** Sociodemographic characteristics of head nurses

Variable		N (%)
Sex	Female	137 (82.5)
	Male	29 (17.5)
Marital status	Single	12 (27.0)
	Married	150 (90.4)
	Other	4 (2.4)
	Bachelor's	136 (81.9)
Education	Master's	30 (18.1)
	Permanent	158 (95.2)
Employment status	Contractual	5 (3.0)
	Temporary	3 (1.8)

**Table 2.** Descriptive indicators related to the communication skills, leadership style, and conflict management questionnaires

Dimensions of communication skills	Mean ± SD	Dimensions of leadership style	Mean ± SD	Dimensions of conflict management	Mean ± SD
Ability to receive and send messages	24.42± 3.28	Servant leadership	16.23± 2.29	Non-confrontational strategy	3.86±0.67
Emotional control	25.91± 3.49	Transformational leadership	16.81± 2.39	Solution orientation strategy	3.54±0.58
Listening skills	15.23± 2.56	Contingent leadership	16.63± 2.43	Control strategy	3.61±0.58
Insights into the communication process	14.04± 1.88	Charismatic leadership	16.95 ± 2.73	Total score	3.69±0.51
Communication with assertiveness	16.81± 2.25	Total score	66.62 ± 8.54		
Total score	96.40± 8.98				

**Table 3.** The relationship between communication skills, conflict management strategies, leadership styles, and sociodemographic characteristics

Questionnaire	Dimensions	Sex*	Marital status**	Education**	Employment status**	Work experience***		Age***	
		P-value	P-value	P-value	P-value	r	P-value	r	P-value
Communication skills	Ability to receive and send messages	0.819	0.188	0.183	0.058	0.07	0.402	0.11	0.149
	Emotional control	0.490	0.197	0.742	0.015	0.10	0.203	0.05	0.496
	Listening skills	0.452	0.467	0.017	0.484	- 0.04	0.630	- 0.14	0.071
	Insights into the communication process	0.231	0.506	0.173	0.473	0.02	0.830	0.06	0.426
	Communication with assertiveness	0.251	0.268	0.574	0.369	0.22	0.005	0.18	0.019
	Total score	0.199	0.642	0.211	0.022	0.12	0.141	0.08	0.281
Conflict management	Non-confrontational strategy	0.814	0.717	0.830	0.738	0.00	0.478	0.03	0.536
	Solution orientation strategy	0.331	0.921	0.517	0.519	0.01	0.933	0.09	0.267
	Control strategy	0.907	0.711	0.970	0.985	0.13	0.105	- 0.03	0.672
	Total score	0.683	0.950	0.884	0.883	0.03	0.287	0.02	0.968
Leadership style	Servant leadership	0.577	0.448	0.991	0.178	0.14	0.066	0.05	0.502
	Transformational leadership	0.593	0.921	0.917	0.363	0.07	0.347	0.05	0.545
	Contingent leadership	0.301	0.886	0.542	0.846	- 0.02	0.821	- 0.03	0.722
	Charismatic leadership	0.619	0.380	0.731	0.292	0.06	0.472	0.04	0.591
	Total score	0.389	0.536	0.780	0.289	0.07	0.354	0.03	0.714

\* Mann-Whitney U, \*\*Kruskal-Wallis, \*\*\*Spearman Correlation Test

Furthermore, there was a significant positive relationship between the ability to receive and send messages and the contingent leadership style (P-value = 0.043). As the ability to receive and send messages increases, there is an increase in the utilization of the contingent leadership style (Table 5).

The orientation strategy had a reverse effect on leadership quality,

diminishing leadership quality in head nurses across all dimensions (P-value < 0.05). Additionally, the total score of conflict management displayed a significant negative association with the charismatic leadership style (P-value = 0.031). In other words, an increase in the total score of conflict management was associated with a decrease in the utilization of the charismatic leadership style (Table 6).

**Table 4.** Relationship between communication skills and conflict management strategies

Questionnaire	Conflict management					
	Dimensions	Statistical indexes	Non-confrontational strategy	Solution orientation strategy	Control strategy	Total score
Communication skills	Ability to receive and send messages	r *	0.20	0.26	0.14	0.24
		P-value	0.010	0.001	0.080	0.002
	Emotional control	r*	0.29	0.29	0.24	0.33
		P-value	< 0.001	< 0.001	0.002	< 0.001
	Listening skills	r*	0.17	0.35	0.19	0.28
		P-value	0.029	< 0.001	0.016	< 0.001
	Insights into the communication process	r*	0.12	0.23	0.12	0.18
		P-value	0.132	0.002	0.117	0.019
	Communication with assertiveness	r*	0.30	0.23	0.14	0.29
		P-value	< 0.001	0.003	0.074	< 0.001
	Total score	r*	0.36	0.41	0.27	0.42
		P-value	< 0.001	< 0.001	< 0.001	< 0.001

\* Spearman Correlation Test

**Table 5.** The relationship between communication skills and leadership style

Questionnaire	Leadership style						
	Dimensions	Statistical indexes*	Servant leadership	Transformational leadership	Contingent leadership	Charismatic leadership	Total score
Communication skills	Ability to receive and send messages	r	- 0.11	- 0.03	- 0.16	0.00	- 0.08
		P-value	0.157	0.717	0.043	0.990	0.281
	Emotional control	r	- 0.04	0.07	- 0.01	0.04	0.02
		P-value	0.638	0.372	0.856	0.626	0.845
	Listening skills	r	- 0.09	- 0.01	- 0.09	0.00	- 0.06
		P-value	0.239	0.904	0.272	0.955	0.423
	Insights into the communication process	r	- 0.07	0.01	- 0.01	- 0.05	- 0.04
		P-value	0.348	0.882	0.914	0.543	0.574
	Communication with assertiveness	r	0.01	0.03	- 0.02	0.04	0.01
		P-value	0.942	0.701	0.789	0.657	0.930
	Total score	r	- 0.09	0.02	- 0.11	0.03	- 0.05
		P-value	0.228	0.821	0.174	0.665	0.547

\* Spearman Correlation Test

**Table 6.** The relationship between conflict management strategies and leadership style

Questionnaire	Leadership style						
	Dimensions	Statistical indexes*	Servant leadership	Transformational leadership	Contingent leadership	Charismatic leadership	Total score
Conflict management	Non-confrontational strategy	r	- 0.03	0.07	- 0.05	- 0.10	- 0.03
		P-value	0.696	0.352	0.518	0.188	0.694
	Solution orientation strategy	r	- 0.27	- 0.22	- 0.24	- 0.20	- 0.27
		P-value	< 0.001	0.005	0.002	0.008	< 0.001
	Control strategy	r	-0.01	- 0.01	- 0.11	- 0.16	- 0.08
		P-value	0.915	0.891	0.160	0.037	0.300
	Total score	r	- 0.11	- 0.03	- 0.14	- 0.17	- 0.13
		P-value	0.154	0.727	0.083	0.031	0.106

\* Spearman Correlation Test

## Discussion

Based on the study's results, head nurses' communication skills were evaluated at an average level. In some other studies (15-17), supervisors' communication skills were also assessed at an average level, consistent with the present study's findings. However, in Asefzadeh et al.'s study, communication skills were rated above average, contrasting with the results of the present study (12). These discrepancies could be attributed to differences in data collection tools. Communication skills at an average level indicate that the current state of these skills in head nurses is acceptable but still in need of improvement. Shafakhah et al. highlighted the importance of medical personnel acquiring basic communication skills (18). Khodadadi et al.'s study emphasized the significance of managers considering the enhancement of nurses' communication skills (19). Short-term training in communication principles and solution-oriented treatment techniques for nurses can influence various aspects of their communication skills, including general communication, therapeutic communication, emotional support for patients, and their attitude toward the profession (20).

The study results indicated that the communication skills of officially hired managers were better than those of contract employees. Additionally, the dimension of association with assertiveness exhibited a significant relationship with age and management experience. With increasing age and management experience, this dimension improved, which contradicted the findings of Asefzadeh et al.'s study (12). These outcomes suggest that officially hired managers may possess more experience in interpersonal communication and potentially have a higher level of self-confidence due to job security. It is also possible that older head nurses with more managerial experience have acquired effective communication methods over time. No significant relationship between sex and communication skills or their dimensions was observed, aligning with the present study's results. This observation was consistent with the studies conducted by Asefzadeh et al. (12) and Graf et al. (21). Similarly, Mehralian et al. found no significant relationship between the overall score of managers' communication skills and sex, age, or work experience, mirroring the present study's findings (22).

The predominant leadership style employed by head nurses was the charismatic leadership style. In another study involving head nurses, servant, charismatic, transformational, and contingent leadership styles had the highest scores, respectively, which contrasts with the present study's results (23). The variation in findings may be attributed to differences in the studied populations. Since there is no one-size-fits-all leadership style suitable for ethical dilemmas, and specific leadership styles should be applied for each ethical dilemma, nursing managers are encouraged to enhance leadership effectiveness, increase nurses' job satisfaction, and promote ethical decision-making by reinforcing transformational leadership styles in their management practices (17).

In the present study, no significant relationship was observed between any of the leadership styles and demographic characteristics. However, in Martinez-Leon et al.'s study, a statistically significant relationship was found between leadership style, work experience, and sex (24). The lack of significance in the relationship between sex and leadership style in this research may be due to the unequal distribution of the 2 sexes in the sample size.

The predominant conflict management strategy employed by head nurses was non-confrontation, consistent with the findings of other studies (25) but inconsistent with the study conducted by Ghasemyani et al. (26). Additionally, Baddar et al.'s study showed that nurses used compromise and cooperation styles more frequently than patients (27). These discrepancies in findings could be attributed to differences between the 2 populations. Overall, the results indicate that nurses tend to avoid conflict and suppress contentious issues. Unresolved conflicts in nursing can lead to tension and stress, reduce motivation and morale among nursing staff, and subsequently result in a decrease in the quality of nursing services provided to patients. This, in turn, can lead to longer hospitalizations and increased medical expenses. Therefore, nursing managers, armed with adequate knowledge and information about conflicts among nurses, can enhance motivation, boost morale, and improve the satisfaction of both nurses and patients by teaching appropriate conflict resolution methods. This, in turn, can contribute to patients' recovery and overall satisfaction.

In the present study, no significant relationship was found between conflict management strategies and other demographic and contextual characteristics. However, in Wang et al.'s study, a significant statistical relationship was identified between conflict management strategies and sex, as well as between control strategy and age (28). Ghasemyani et al.'s study revealed a significant relationship between the level of conflict, the strategies of control and solution orientation, and the age group of nurses, as well as between control strategy and work experience, contrasting with the present study's findings (26). In Ardalan's study, nurse managers with more work experience who had completed conflict management training courses tended to use the cooperation style more frequently (29). These differences may arise from variations in the departments studied and the working conditions of nurses within those departments. Therefore, further research is warranted in this regard.

This study also had several limitations that should be considered when interpreting the data. Answering the questionnaire in the hospital during the COVID-19 pandemic might have influenced the study's results, so it is advisable to conduct longitudinal studies in this context. The mental and emotional state of individuals while completing the questionnaires, along with the use of self-report

questionnaires for data collection, are among the study's limitations. Additionally, variables such as organizational culture, organizational structure, race, and personality can influence conflict management strategies, leadership styles, and communication skills. These variables were not within the scope of this research due to its limited scope and should be investigated thoroughly in separate studies.

## Conclusion

The findings revealed that the total score of communication skills, particularly the dimensions of emotional control and listening skills, exhibited a significant positive association with the overall score of conflict management and its three distinct strategies. Moreover, a significant positive relationship was observed between the ability to receive and send messages and the contingent leadership style. Conversely, the orientation strategy demonstrated a negative impact on leadership quality, as it was found to diminish leadership quality across all dimensions for head nurses. The nature of nursing services necessitates that nurse managers employ cooperation and compromise styles. Therefore, selecting individuals with ample experience and solid work history for nurse manager roles, along with offering relevant training courses in conflict management, can significantly mitigate the detrimental impacts of conflict within hospital nursing departments. It is advisable to develop programs and workshops for head nurses aimed at enhancing their communication skills, applying leadership styles that align with the situation, and effectively managing conflicts among nurses.

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## Ethical statement

Ethical approval for this study was obtained from the Ethics Committee of Golestan University of Medical Sciences (IR.GOUMS.REC.1400.363). The questionnaires were filled out anonymously, and the collected data were kept confidential. Informed consent was obtained from all the participants.

## Conflicts of interest

The authors declare that they have no competing interests.

## Author contributions

AH, SBK, and MJK contributed to the conception and design of the study. MT, SJ, and FZ collected the data. ZK performed data analysis. ZK, ML, and NR conducted data interpretation. AH, ZK, and NR evaluated and edited the manuscript. All the authors have read and approved the final manuscript.

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